

Dezhou People's Hospital

Digitizing Medical Services for World-class Healthcare in China through RUCKUS® Wi-Fi

OVERVIEW

Dezhou People's Hospital is a world-class general hospital in the Shandong Province of China. Looking to improve the quality and accessibility of medical care and information sharing, it was important to update the underlying infrastructure. The new RUCKUS solution supports the high-density and challenging environment.

REQUIREMENTS

- A new wireless network to meet the need for smart mobile health care, and to improve operational efficiency
- A reliable network to support timely customer service enquiries from patients and their families
- A high-performance network to ensure that patients are in constant contact with their friends and families
- A secure network to protect highly private patient data, and critical hospital systems

SOLUTION

- Two RUCKUS SmartZone wireless network controllers
- Over 600 units of RUCKUS ceiling-mounted 802.11ac access points (APs)
- Over 50 units of RUCKUS wall-mounted APs

BENEFITS

- Delivers mission-critical network connectivity to support hospital medical services, and to improve staff effectiveness as well as efficiency
- To enable independent internal and external networks at the hospital, to serve both patient and staff requirements



- High-performing public internet access improves the user satisfaction for both patients and their families
- A stable and secure wireless network protects patient privacy, and ensures the operational integrity of critical hospital systems

How timely upgrades to critical network infrastructure formed the basis of effective digitalization of medical services

Dezhou People's Hospital is a world-class general hospital in the Shandong Province of China, with more than 1,300 beds and a 2,300-strong workforce,

servicing over 900,000 outpatients annually. The hospital provides accident and emergency (A&E) services, medical consultation and treatment, scientific research, medical education as well as other medical services for the citizens of the Shandong Province.

As technology continues to improve the quality and accessibility of medical care and information sharing, the mobile healthcare trend has caught on in a significant way in China, enabling patients to easily consult with doctors who use mobile medical devices as part of their work. For all this to happen, a high-speed, stable, and secure network connection is required.



Dezhou People's Hospital needed to transform the underlying infrastructure of their medical systems. An aging wireless network combined with the building structure caused serious wireless interference that was hampering their efforts in adopting newer products and technologies to help meet the demands of their patients as well as their goals to provide cutting-edge healthcare.

Poor signal quality and an unstable wireless network hindered hospital staff access to the hospital's clinical application system, impacting productivity. Moreover, the hospital's customer service department relies heavily on uninterrupted availability of medical reports to support timely responses to both patient and family enquiries. Unreliable connectivity in this case had a clear impact on the overall customer experience, due to complaints from both staff, patients, and visitors.

Hospital administrators decided a network upgrade was in order. A customized and high-performance network would not only serve to enhance the overall user experiences for doctors, nurses and patients via digitalization of supporting infrastructure, but also to enable secure, efficient, and hassle-free access to confidential patient data as well as critical hospital systems through mobile terminals.

After careful evaluation, Along Technology, the appointed IT integrator for Dezhou People's Hospital, recommended RUCKUS Wi-Fi solutions for the hospital's new network infrastructure. "The RUCKUS solution outperformed competing brands, not just in terms of absolute performance, but also customizability and support, in a two-year trial in a selection of pilot wards, alongside competing solutions. At the end of the day, the decision to deploy RUCKUS at the hospital was a clear one," said Cheng Changliang, Marketing Director of Along Technology.

"RUCKUS Wi-Fi can support high-density and challenging environments, which makes us a perfect match for Dezhou People's Hospital," said Kelvin Wang, General Manager of RUCKUS China. "The hospital requires a high-performance and reliable wireless network to carry out time-critical medical consultations under severe and high-density environments. We are confident our rich experience in serving medical clients and outstanding wireless network solutions can fulfill the needs of both workers and patients in the medical industry."

A high-performance and secure network supports medical healthcare services and enhances the overall customer experience

A pair of RUCKUS SmartZone wireless network controllers were deployed to manage the wireless access points (APs) and associated connected clients. Separately, over 650 units of both RUCKUS ceiling-mounted APs and wall-mounted APs were deployed to provide reliable access for multiple clients which were set up to independently support both internal and external networks.

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Marketing Director, Along Technology

The smart antennas of the APs not only significantly improved signal coverage but were also resistant to interference. What's more, the wall-mounted APs could be conveniently installed in places that traditionally required complex wiring, such as the hospital operating theatres.

"RUCKUS' patented BeamFlex™ adaptive antennas bring obvious advantages in signal coverage. We now see very little signal interference, even in the complex wireless environment set up within the hospital," said Director Wu from the network department of Dezhou People's Hospital. "We've seen complaints from doctors and staff reduce dramatically. It is clear that the new wireless network greatly enhances the overall user experience."

With the new wireless network in place, doctors, nurses and staff can now access medical systems through mobile devices such as hand-held terminals including PDAs and tablets, as well as mobile carts. Patient records can easily be accessed directly at patient wards, while diagnosis and treatment notes can be instantly updated into the system.

The hospital's existing electrocardiography (ECG) is now wireless-enabled, letting doctors collect ECG data directly from patient wards, and sent to the hospital's medical systems without any delay.

For staff as well as patients' visiting families and friends, the upgraded wireless network also enables convenient access to the internet for their personal devices, both in the outpatient areas of the hospital, and not just patient wards. For IT administrators, network management was made much easier, with the network separated for both internal and external use.

Looking ahead, Dezhou People's Hospital is planning to install more RUCKUS APs to further bolster network performance for the future needs of the hospital, with the goal of deploying a total of 1,000 APs in all.

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